

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

LEE, Sang-Yong

4F., Byukcheon Bldg., 1597-5, Seocho-dong, Seocho-gu,
Seoul 137-876 Republic of Korea

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year) 25 FEBRUARY 2005 (25.02.2005)	
Applicant's or agent's file reference PCT04-043	FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/KR2004/003284	International filing date (day/month/year) 14 DECEMBER 2004 (14.12.2004)
	Priority date(day/month/year) 16 DECEMBER 2003 (16.12.2003)
International Patent Classification (IPC) or both national classification and IPC IPC7 H05K 7/20	
Applicant LG Cable Ltd. et al	

BEST AVAILABLE COPY

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

HONG, Geun Jo

Telephone No. 82-42-481-5747



WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/KR2004/003284

Box No. 1 Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

BEST AVAILABLE COPY

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/KR2004/003284

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1 - 33	YES
	Claims		NO
Inventive step (IS)	Claims	1 - 33	YES
	Claims		NO
Industrial applicability (IA)	Claims	1 - 33	YES
	Claims		NO

2. Citations and explanations :

Reference is made to the following document :

D1 : JP 12-161878 A (Furukawa electric Co., Ltd) 16 Jun 2000
D2 : US 6097602 A (Marian, Inc.) 01 Aug 2000
D3 : US 2003/0129863 A1 (International Business Machines Corporation) 10 Jul 2003
D4 : US 2004/0080915 A1 (Koninklijke philips electronics N.V.) 29 Apr 2004

1. Novelty and Inventive Step:

The present invention relates to a flat-case heat transfer device composed of mesh aggregate having a structure of plural layers of coarse mesh and fine mesh. The coarse mesh is woven in a crossed wire inside the flat case . The thermally conductive flat case accommodates a coolant which absorbs and evaporates heat from the heat source, and then emits the heat and is condensed simultaneously at the heat emitting unit.

D1,D2, D3 and D4 do not involve these features and the claimed device can not be derived from the prior arts easily. Therefore, the present invention satisfies the regulations of PCT Article 33(2) & (3).

2. Industrial Applicability:

Since the heat transfer device of the present invention obtains heat stability of a product by dissipating the heat from the heat source of the electronic appliances, it satisfies the regulations of PCT Article 33(4).

BEST AVAILABLE COPY